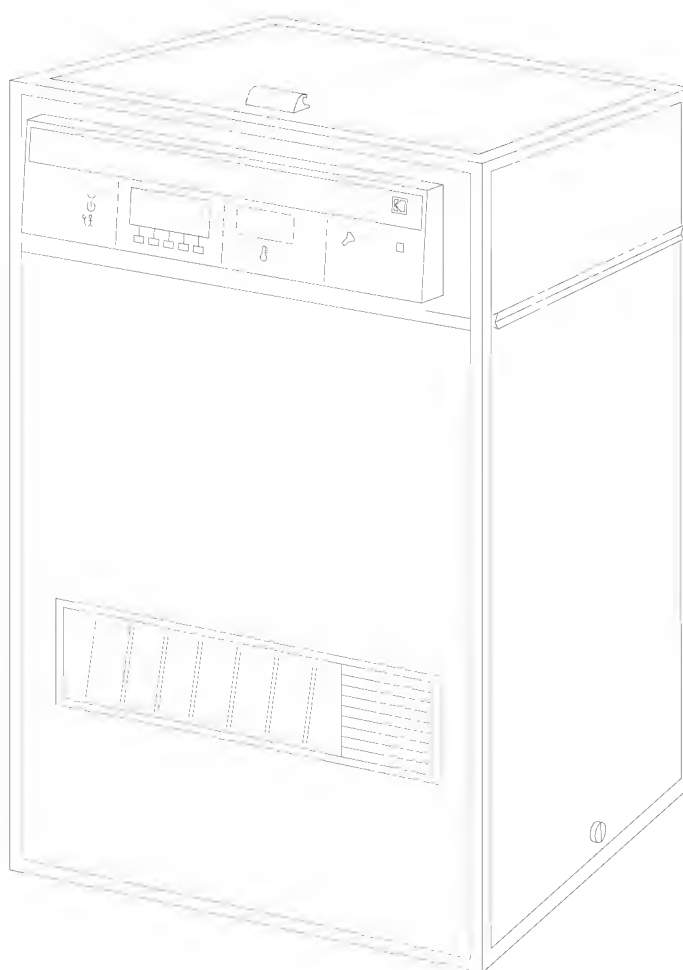




# **SITE SPECIFICATIONS**

**for the**

## ***Kodak X-Omat 460 RA Processor***



H108\_0003DA

**PLEASE NOTE**

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

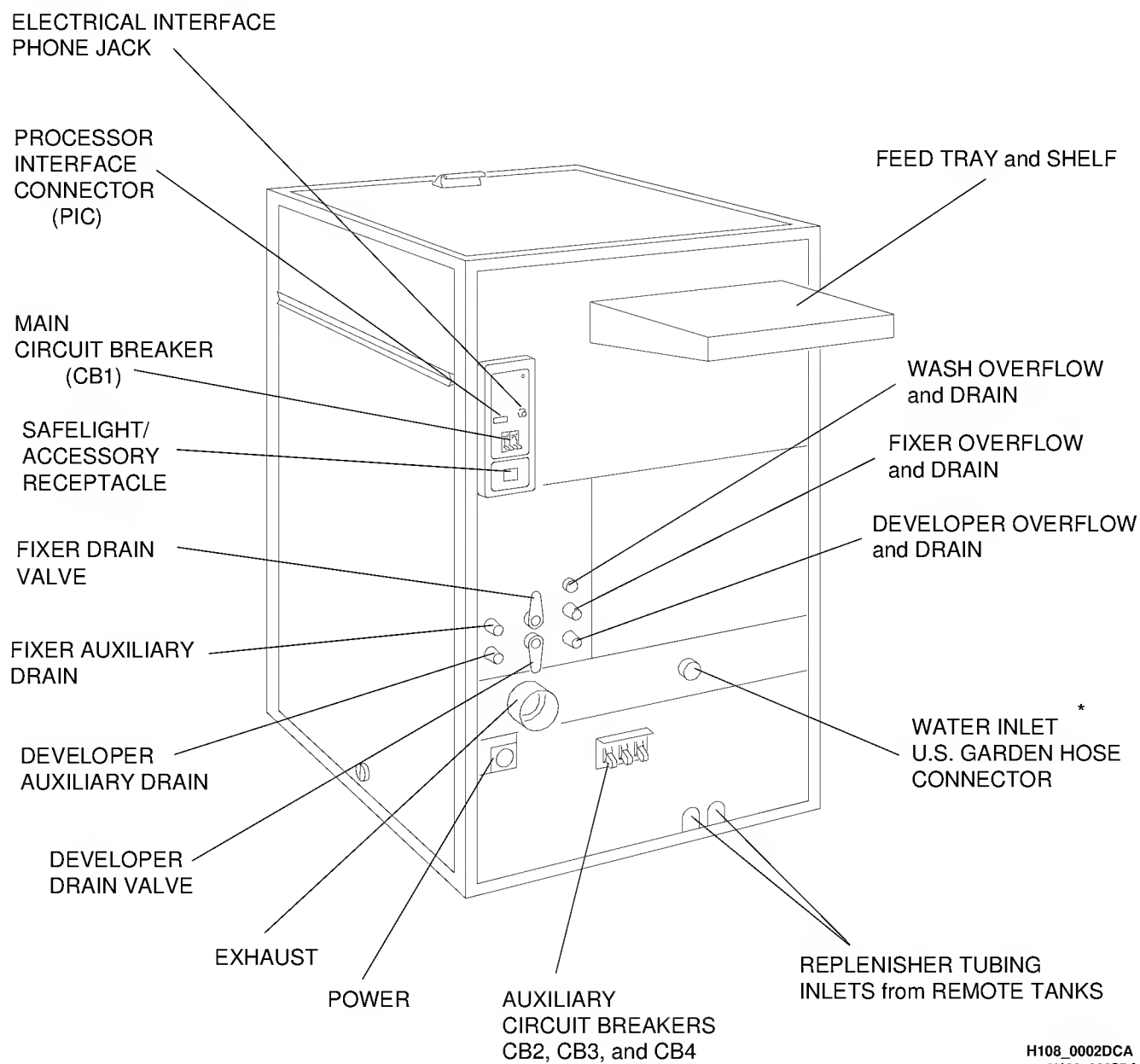
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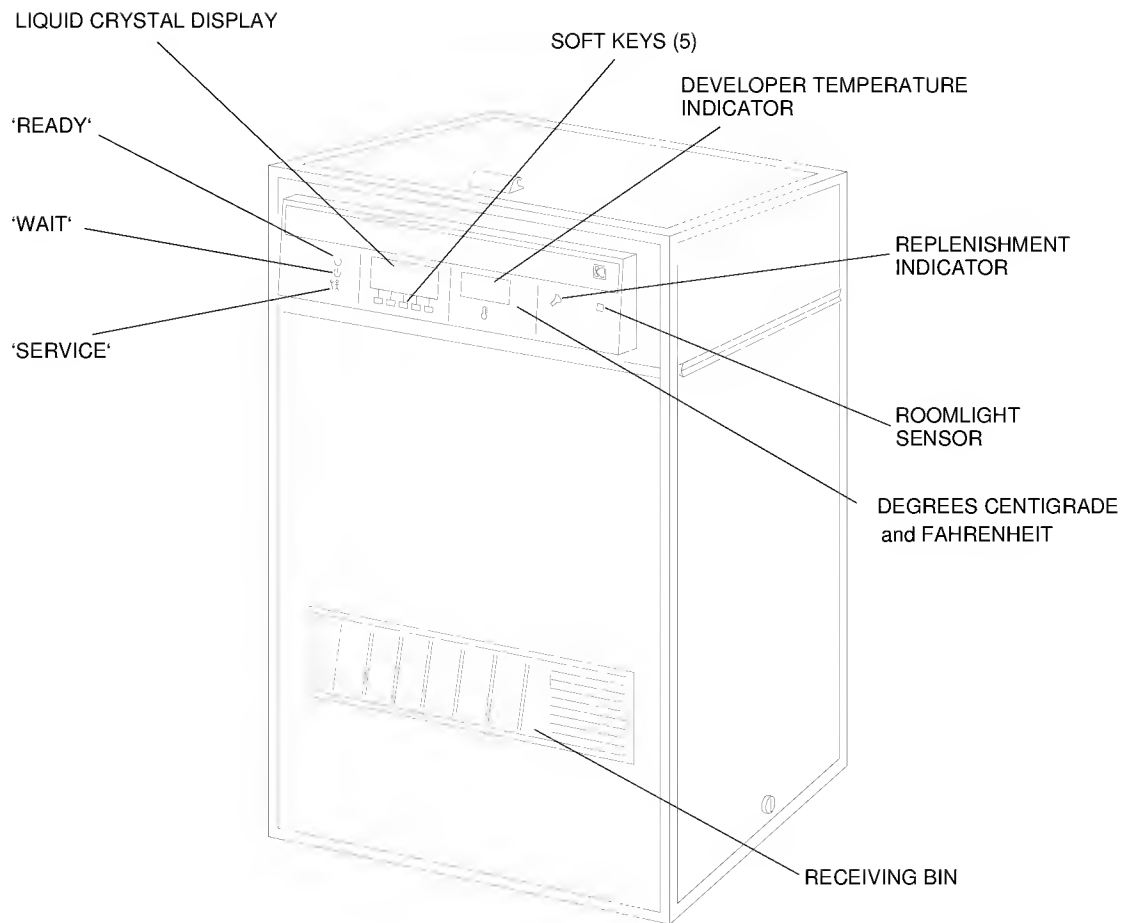
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## Overview of the Processor



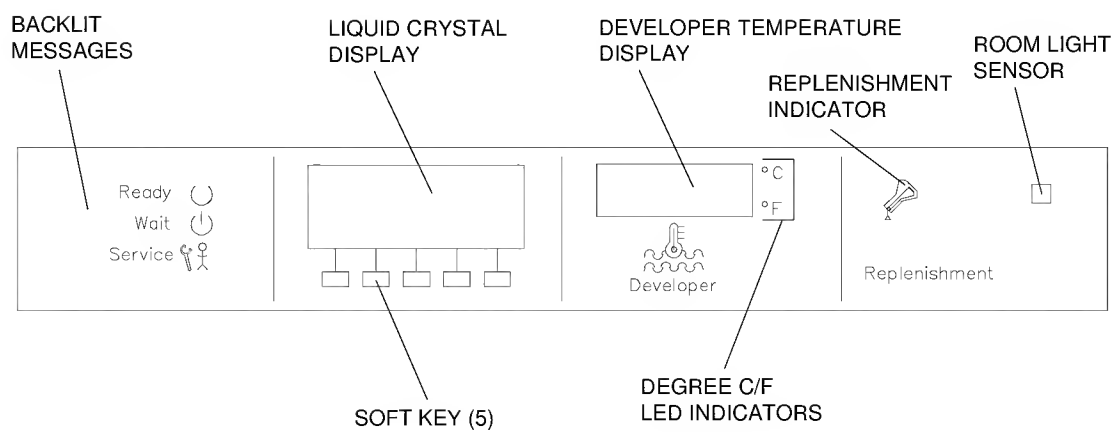
**Figure 1 Feed-End View**

\* Supplied in the pre-pack is an adapter for 1/2-inch NPT.



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**Figure 2 Receiving-End View**



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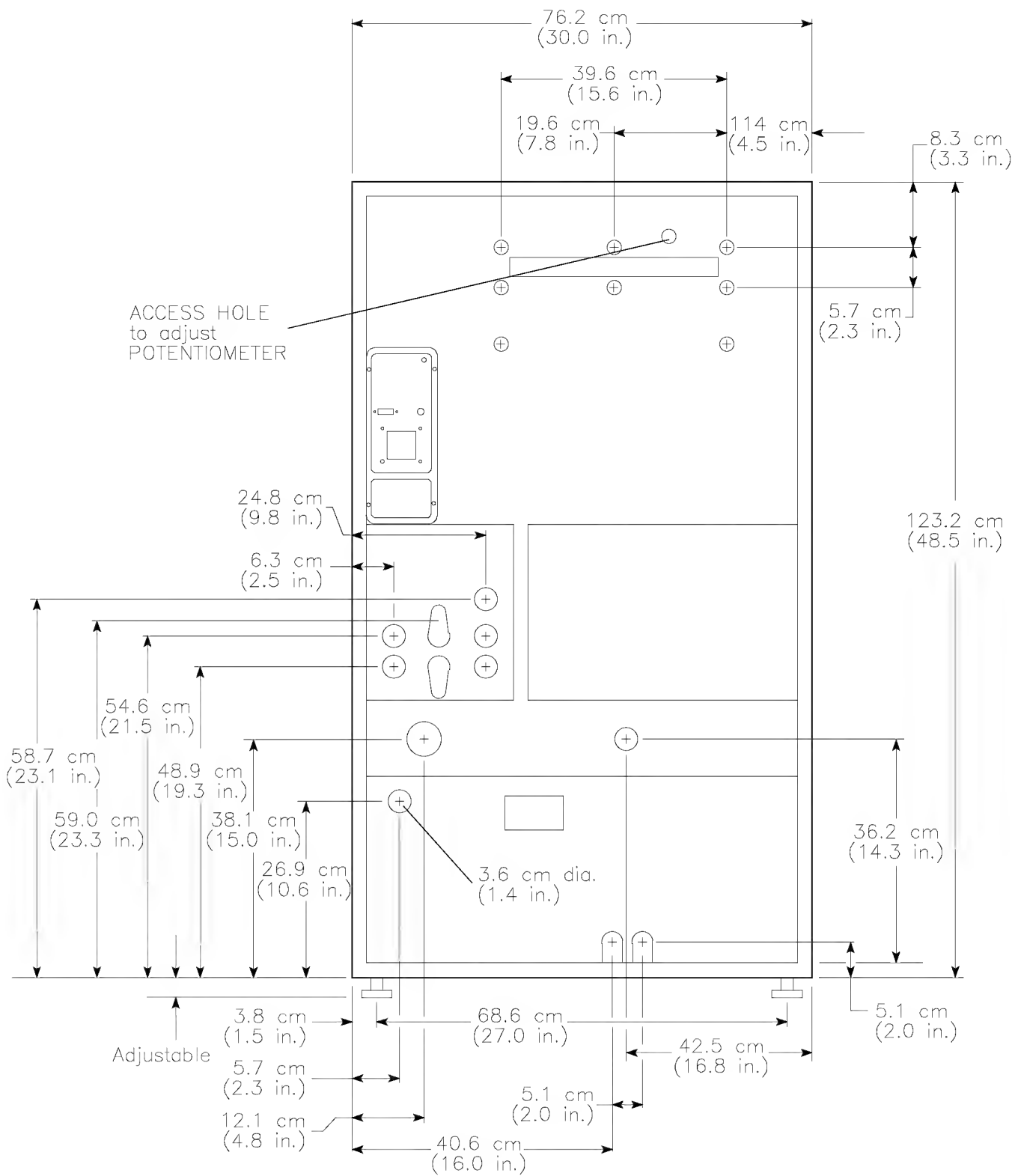
**Figure 3 Display Panel on Receiving-End of the Processor**



### Figure 4 Side Dimensions

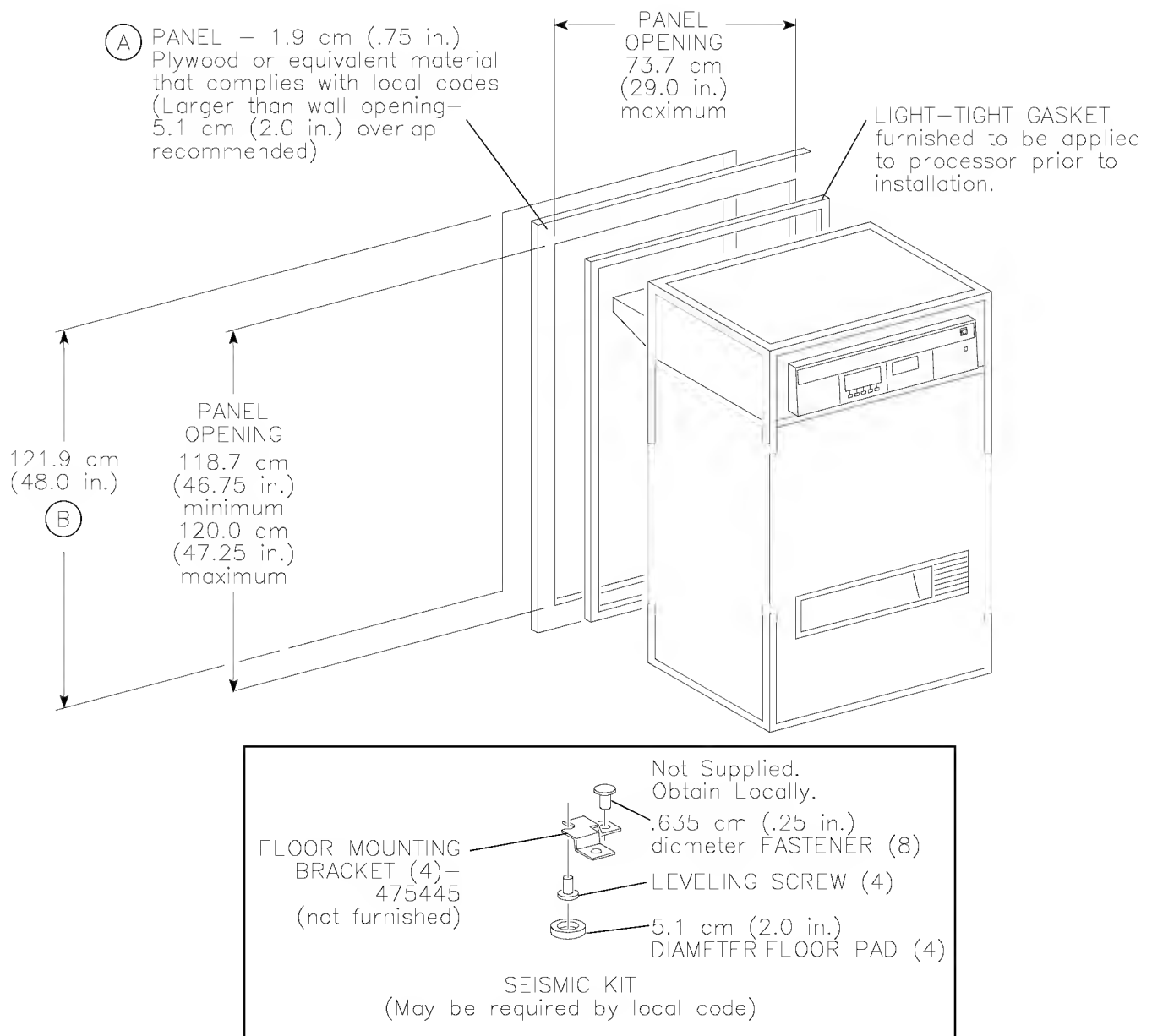
### Table 1 Dimensions and Weight of the Processor

Description	Crated	Uncrated
Length	73.7 cm (29 in.)	66.0 cm (23½ in.) Without feed tray 97.8 cm (38½ in.) With feed tray
Width	88.9 cm (35 in.)	76.2 cm (30 in.)
Height	141.0 cm (55½ in.)	123.2 cm (48½ in.)
Weight (Tanks Empty)	214 kg (471 lb)	201 kg (422 lb)
Weight (Tanks Full)	Not Applicable	235 kg (499 lb)



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Figure 5 Feed-End Dimensions

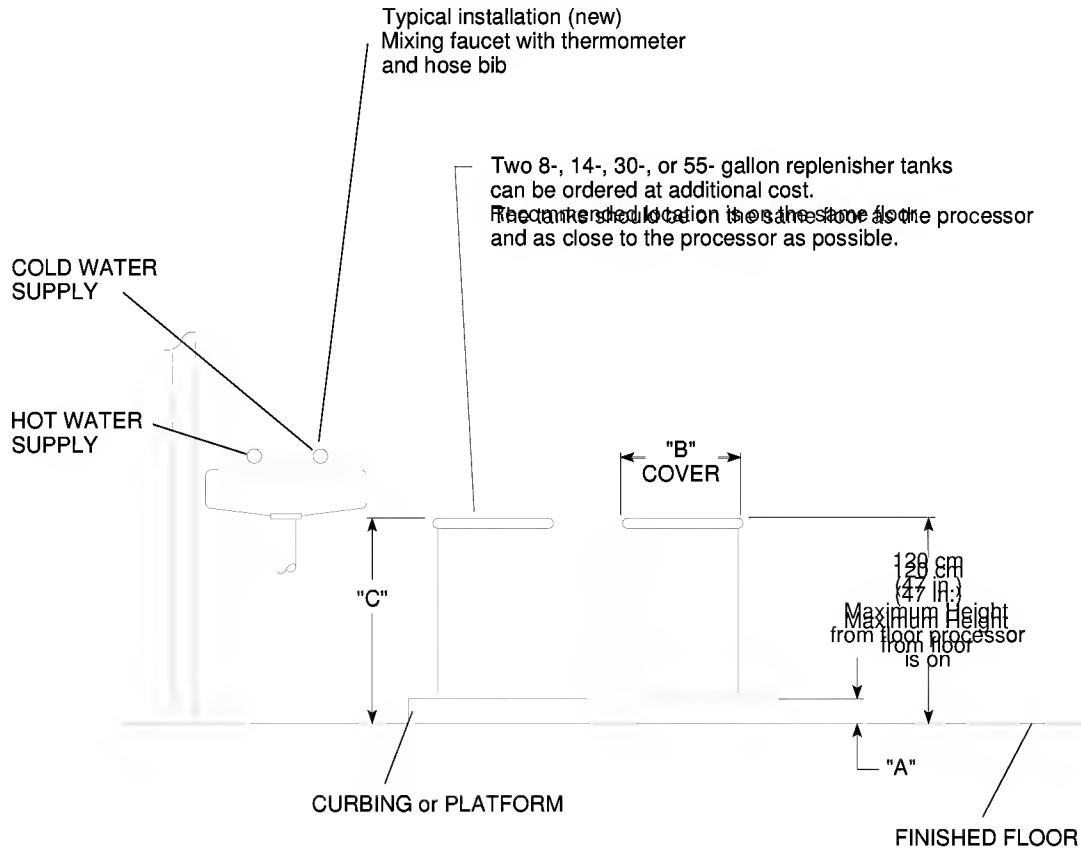


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**Figure 6 New Wall Installation - Feed End**

- A** If the wall around the opening is straight and exactly perpendicular to the floor, this panel may not be necessary. The wall opening dimensions should match the inside dimensions of the panel opening.
- B** Make sure that the vertical dimension of 48±1/16 in. for the wall opening is measured from the finished floor.

## Replenishment Tank Requirements



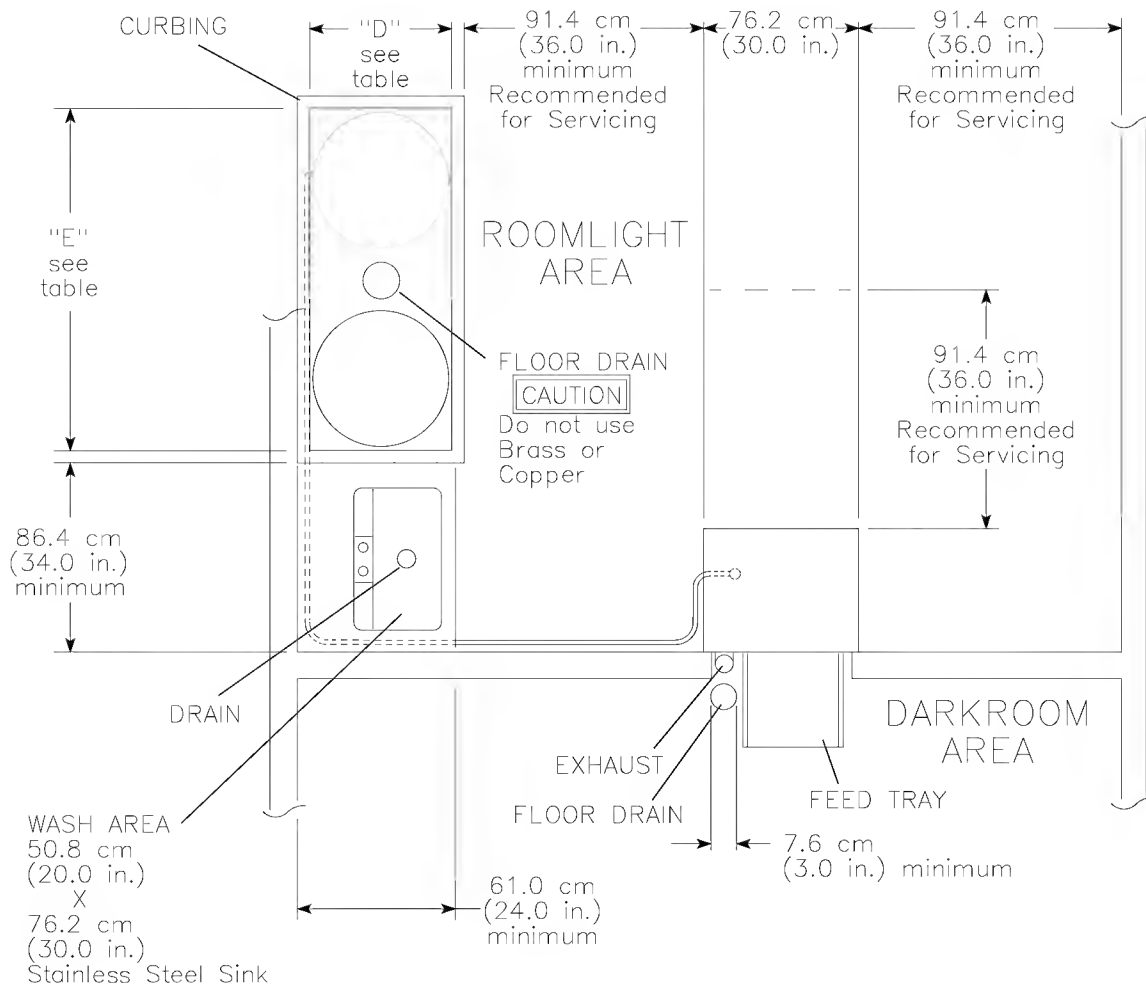
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**Figure 7 Replenisher Tanks**

**Table 2 Dimensions for Replenisher Tanks**

DESCRIPTION	DIMENSION	14 GAL	30 GAL	55 GAL
Max Platform Height	"A"	48.3 cm (19 in.)	35.6 cm (14 in.)	15.2 cm (6 in.)
Tank Diameter	"B"	43.2 cm (17 in.)	55.9 cm (22 in.)	61.0 cm (24 in.)
Tank Height	"C"	58.4 cm (23 in.)	70.5 cm (27¾ in.)	90.8 cm (35¾ in.)
External Replenishment Tank Area	"D" x "E" (MIN)	61.0 X 127.0 cm (24 X 50 in.)	61.0 x 152.4 cm (24 x 60 in.)	66.0 x 172.7 cm (26 x 68 in.)





H108\_0006DA

**Figure 8 Suggested Room Layout Showing Replenishment Tanks and Drain Locations**

**Table 3 Maintenance and Operation Access Requirements**

Description	Recommendation
Receiving End of Processor	91.4 cm (36 in.)
Feed End of Processor	91.4 cm (36 in.)
Drive Side of Processor	91.4 cm (36 in.)
Non-Drive Side of Processor	91.4 cm (36 in.)
Top of Processor	91.4 cm (36 in.)

## Electrical Requirements

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- Basic Requirements**
- 35 A, single-phase  
or
  - 25 A, three-phase
  - single-phase 2-wire, or 3-phase 3 or 4-wire service
  - earth ground

### IMPORTANT

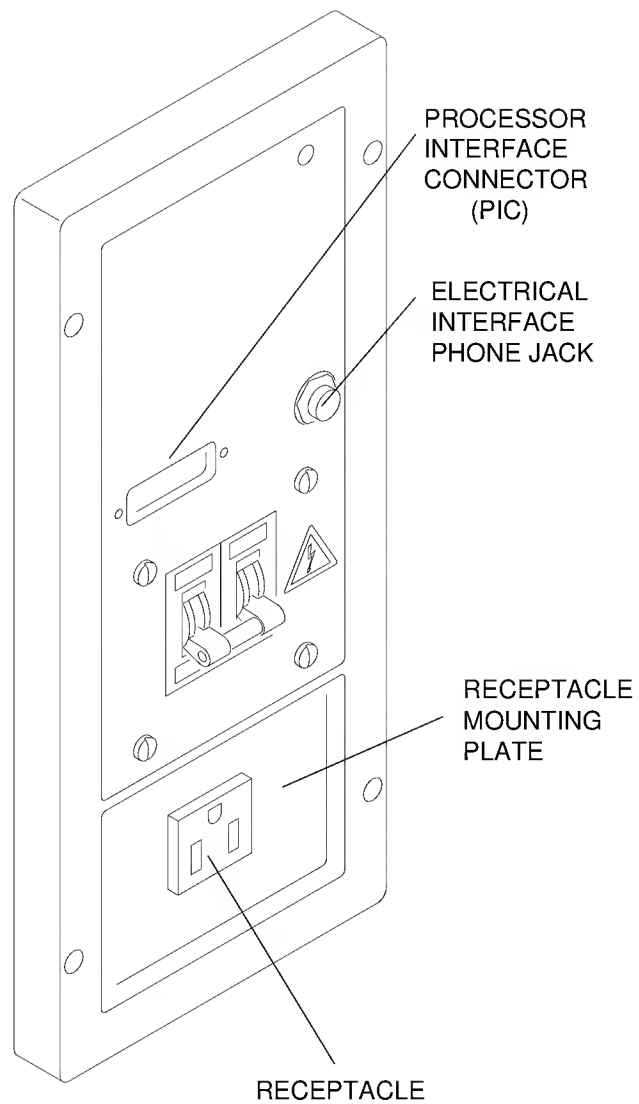
All electrical services, *including* **earth ground**, must comply with local and national electrical codes.

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### Standard Service Options

**Table 4 Service Options**

Voltage Volts	Frequency Hz	Service
200	50/60	2 - Wire Single Phase plus Earth Ground
220	50/60	2 - Wire Single Phase plus Earth Ground
230	50/60	2 - Wire Single Phase plus Earth Ground
240	50/60	2 - Wire Single Phase plus Earth Ground
100/200	50/60	3 - Wire Single Phase plus Earth Ground
120/240	50/60	3 - Wire Single Phase plus Earth Ground
200	50/60	3 - Wire 3 - Phase Delta plus Earth Ground
120/208	60	4 - Wire 3 - Phase Wye plus Earth Ground
127/220	50	4 - Wire 3 - Phase Wye plus Earth Ground
220/380	50	4 - Wire 3 - Phase Wye plus Earth Ground
230/400	50	4 - Wire 3 - Phase Wye plus Earth Ground
240/415	50	4 - Wire 3 - Phase Wye plus Earth Ground



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P108\_0141C

**Figure 9 Control Panel**

**NOTE**

The RECEPTACLE MOUNTING PLATE is removable for use of other receptacles.

**Processor Interface Connector**

PIC Connector on Processor: 15 Position Panel Mount Subminiature D, AMP Part No. 1-747299-0.

Customer Supplied Mating Connector: AMP Part No. 205206-1 or Equivalent.

**Table 5 Pinout for the Processor Interface Connector (PIC) Port**

<u>PIC#</u>	<u>Signal Description</u>	<u>Type</u>	<u>Function</u>
1.	Shield	Ground	Connection for the cable's shield in an RS232 system.
2.	Transmit Data (TxD)	Output	Data out from the processor in an RS232 system.
3.	Receive Data (RxD)	Input	Data into the processor in an RS232 system.
4.	Request to Send (RTS)	Output	Handshake line for the control of data out from the processor.
5.	Clear to Send (CTS)	Input	Handshake line for the control of data into the processor.
6.	Common/Return	Input	Signal common in an RS232 system and +5v return.
7.	Processor Cycle C0	Output	TTL logic signal indicating processor cycle <sup>1</sup> . 0 is $\leq 0.5$ V @ 4mA    1 is $\geq 3.84$ V @ 4mA
8.	Processor Cycle C1	Output	TTL logic signal indicating processor cycle <sup>1</sup> . 0 is $\leq 0.5$ V @ 4mA    1 is $\geq 3.84$ V @ 4mA
9.	$\overline{\text{Run}}$	Input	TTL logic signal, active <b>LOW</b> input for placing processor in Run mode.
10.	Alarm	Output	TTL logic signal, active <b>HIGH</b> indicating an alarm condition.
11.	Service	Output	TTL logic signal, active <b>HIGH</b> indicating a fault requiring service.
12.	Ready	Output	TTL logic signal, active <b>HIGH</b> indicating processor is operating within specifications.
13.	$\overline{\text{Film Feed}}$	Output	TTL logic signal, active <b>LOW</b> indicating a sheet of film may be inserted into the processor.
14.	Reserved for Future Use	Input	TTL logic signal input not used at this time.
15.	+5 Volt DC (1 A Max.)	Output	Logic supply source of 5 V dc also used to indicate processor is on.

<u><sup>1</sup>Cycle</u>	<u>C1</u>	<u>C0</u>
K/RA	1	1
Rapid	1	0
Standard	0	1
Extended	0	0

**Interface Phone Jack Specification**

Accepts standard 3 circuit 1/4 in. phone plug:  
SWITCHCRAFT No. 290 or equivalent

## Water and Drain Requirements

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### Water Supply

- Temperature: 4°C (40°F) to 32°C (90°F)
- Pressure: 173 to 448 kPa (25 to 65 psi); Install regulator if required.
- Flow: Controlled within the processor to 5.7 L/min (1.5 gal/min),  $\pm 10\%$
- Filtration: 50 micron filter required

#### IMPORTANT

Water supply must comply with local codes; **do not** use iron piping.

#### NOTE

- If the upper limit of the room ambient temperature or the water supply temperature is exceeded, the developer and fixer temperatures may not be controlled correctly.
- Tempered water service is suggested for cleaning the processor and for mixing chemicals manually.

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### Drain

- Capacity: 15 L/min (4 gal/min)
- Connection: Open drain; avoid a solid connection to the processor to eliminate suction conditions

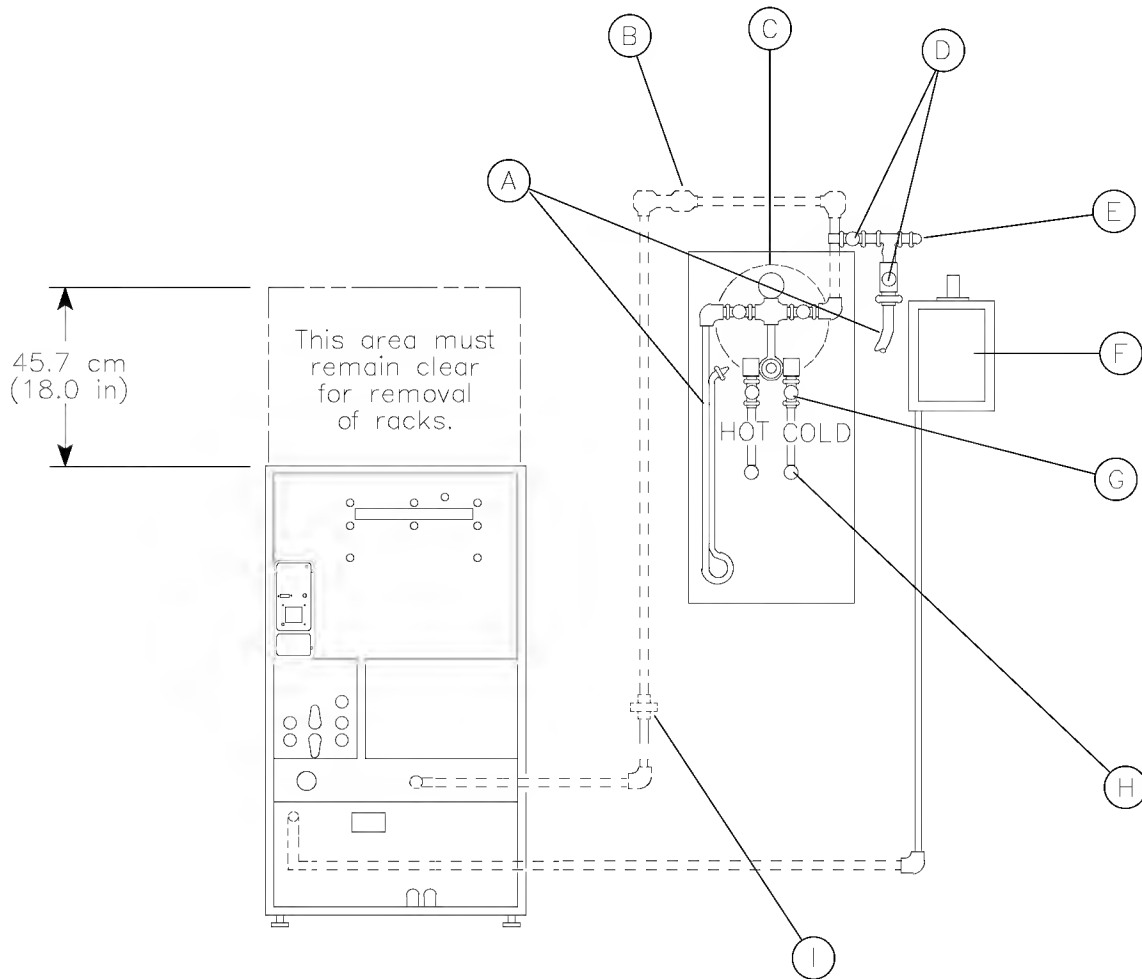
#### IMPORTANT

Do not use brass or copper for the drain lines. Drain service must comply with local codes.

**Main Power Disconnect (Wall mounted, not furnished)**

A main power disconnect switch, as shown in the Figure, consisting of a 2-pole for single-phase and 3-pole for 3-phase, thermomagnetic circuit breaker with solid neutral and common trip **must be**—

- (1) located on a wall adjacent to the processor in the lighted area.
- (2) easily accessible from the processor site.
- (3) visible from the processor site.



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H108\_0009DA

**Figure 10 Electrical and Water Connections**

**Table 6 Electrical and Water Connections (cont.)**

A	Service Hose - suggested length to reach the Processor and Replenisher Tanks.
B	13 mm (½ in.) NPT Check Valve
C	Kodak Thermostatic Mixing Valve 13 mm (½ in.) NPT available from Eastman Kodak Company, Part No. 467621 (Not supplied with the Processor.)
D	Shutoff Valves 13 mm (½ in.) NPT. Two additional required. Available from Eastman Kodak Company, Part No. 459981 (Not supplied with the Processor).
E	Cold Water Supply 13 mm (½ in.) NPT
F	35 AMP - 2 POLE for single phase, or 25 AMP - 3 POLE for 3-phase service, Thermomagnetic Circuit Breaker. (Locate safe distance from water service.) (Not supplied with the Processor.)
G	Shutoff Valves 13 mm (½ in.) NPT. Two additional required. Available from Eastman Kodak Company, Part No. 459981.
H	Hot and Cold Water Supply 13 mm (½ in.) NPT.
I	13 mm (½ in.) NPT Union. Locate as close to the Processor as possible.

**IMPORTANT**

A mixing valve is not required for the processor if incoming water temperature is between 4° and 32°C (40° and 90°F).

Follow local electrical and plumbing codes.

**NOTE**

The processor is UL listed, CSA certified, and TUV approved. Specifications are subject to change without notice.

Pass service through the wall to the feed end of the processor in darkroom. Service controls may be located on either side of the processor for easy accessibility.

## Environmental Requirements

### Room Ambient Conditions

- Temperature: 16°C (60°F) to 30°C (86°F)
- Humidity: 15% to 76% relative humidity, non-condensing

### Air and Heat

#### Air Exhaust (full load):

- 75 CFM maximum
- Temperature: 66°C (150°F) maximum
- Moisture: 600 grains/min

#### Heat Load to Room:

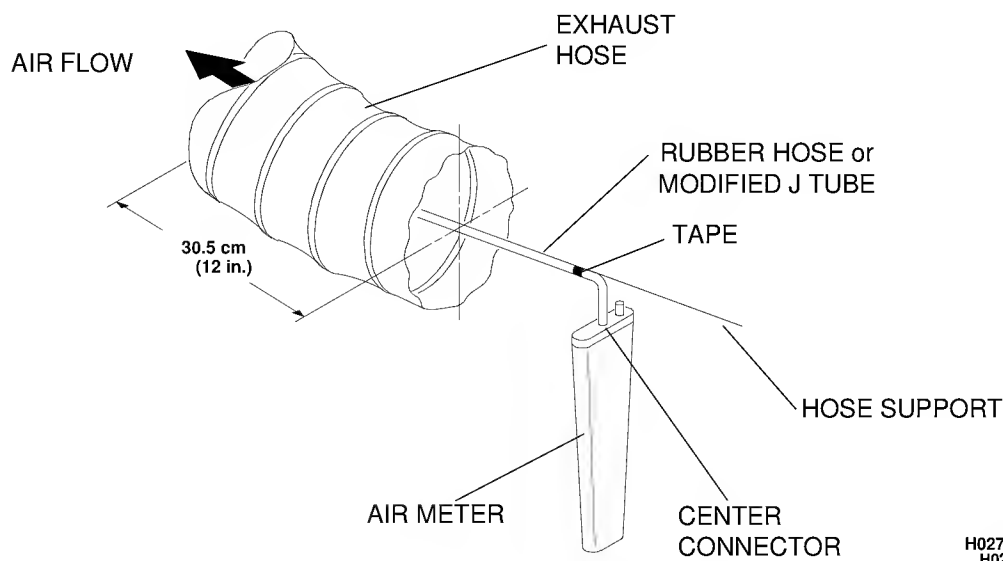
- 2 Kw (6824 BTU/hr or 1719 kcalories)

#### Building Exhaust Duct:

- Use AIR METER TL-2431 and modified J TUBE (CHECK TUBE 592380) to measure negative static pressure in the EXHAUST DUCT 30.5 cm (12 in.) from the end that is to be connected to the processor. See Figures 11 and 12.

### NOTE

The processor must be off and the duct must not be connected while you are making the measurements.



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H027\_0100BA

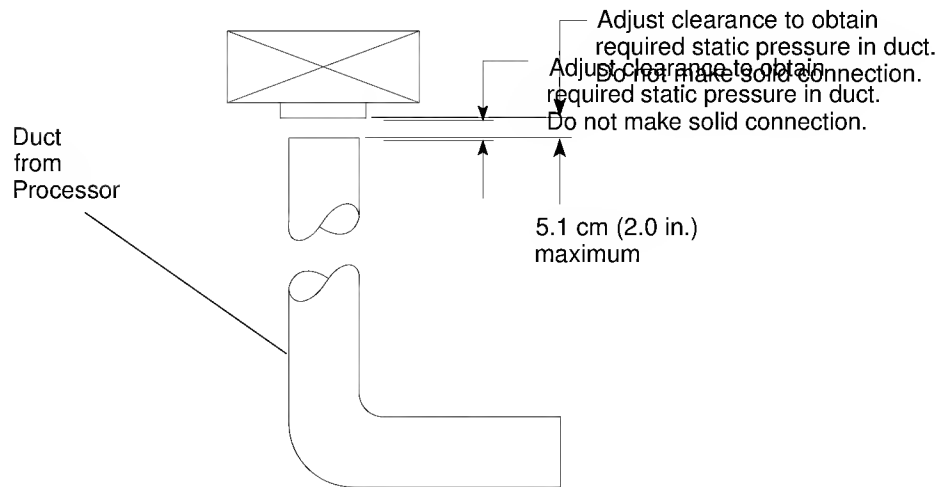
Figure 11 Measuring the Static Pressure



- Adjust the clearance between the building exhaust duct and the duct from the processor as shown in Figure 12 to obtain the required static pressure outlined in Table 7.

**Table 7 Required Static Pressures**

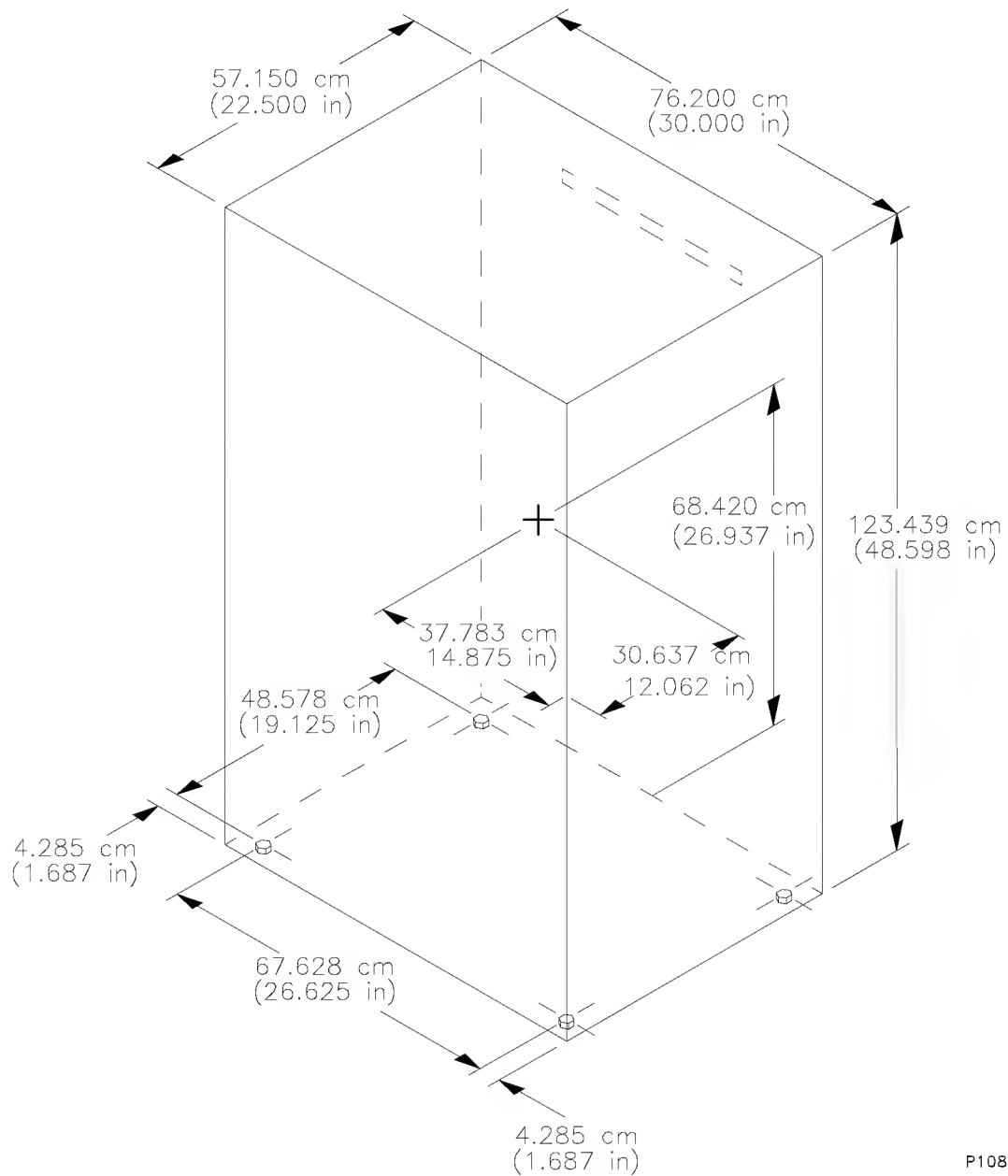
Duct Diameter	Negative Static Pressure, (Water Head)	
	MIN	MAX
7.6 cm (3 in.)	0.76 mm (0.03 in.)	1.02 mm (0.04 in.)
10.2 cm (4 in.)	0.25 mm (0.01 in.)	0.51 mm (0.02 in.)



H108\_0008BAA  
H108\_0008BA

**Figure 12 Exhaust Requirements**

## Center of Gravity



P108\_0086DA

**Figure 13 Center of Gravity**

### NOTE

Center of gravity is shown for the processor with the DEVELOPER, FIXER, and WASH TANKS empty.

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